

BUI# 10 – Beach Closings Update



CARE Work Group Meeting
February 26, 2019

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2018 Season Recap

- Monitored 23 participating beaches along Indiana's Lake Michigan shoreline for *E. coli* bacteria
- Collected 2,959 samples during designated beach season (Memorial Day weekend to Labor Day weekend)
- Posted 163 Advisories
- Posted 6 Closures
- Total of 2,413 Beach Days
- Total of 187 Days under an Action

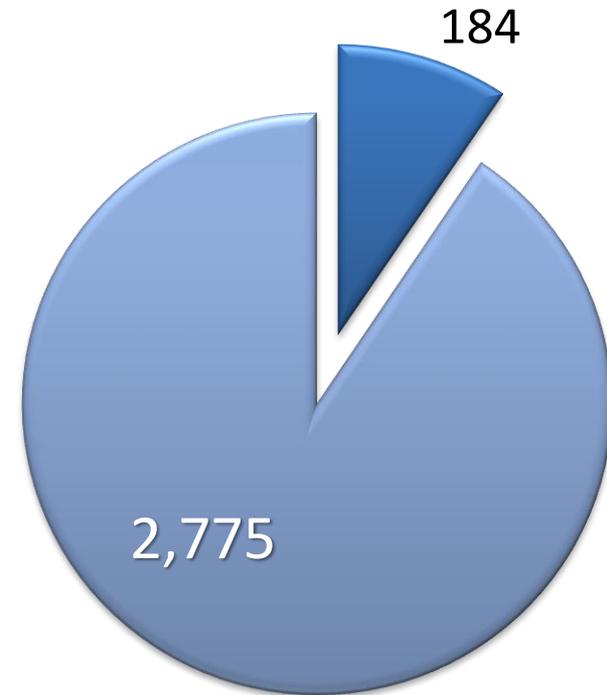
***Beaches were open 92%
of the 2018 Beach Season!***



2018 Data Summary

- Swim season ran approximately from Memorial Day weekend through Labor Day weekend for a total of 2,413 days.
- A total of 2,959 samples from 23 beaches were collected during the season when the beaches were open to the public. (185 samples/week)
- 184 of those samples exceeded the single sample maximum of 235 cfu/100mL.

6% Exceedance Rate





Data Comparison Over the Years for All Program Beaches

	2018	2017	2016	2015	2014	2013	2012
Total Number of Beach Days	2413	2495	2417	2265	2470	2376	2611
Total Number of Days under an Action	187	133	198	174	335	276	333
Total % Days Beaches were Open	92%	95%	92%	81%	86%	88%	87%
Total Number of Samples Collected *	2959	3060	2986	3015	2880	2777	2775
Total Number of Sample Exceedances	184	124	213	285	353	288	288
% Sample Exceedances Rate	6%	4%	7%	9%	12%	10%	10%

* Exceedance rates based on number of samples collected Memorial Day weekend through Labor Day weekend

The decrease in number of beach days and number of samples in 2018 is due to Long Beach Stop 24 not being opened to the public, nor monitored, and a delay in monitoring at the City of Gary beaches.

The increase in sample exceedances in 2018 *may* be attributed to an increase in rainfall totals and delay in implementation of nearshore bird management program.

Beaches in the Grand Calumet River AOC





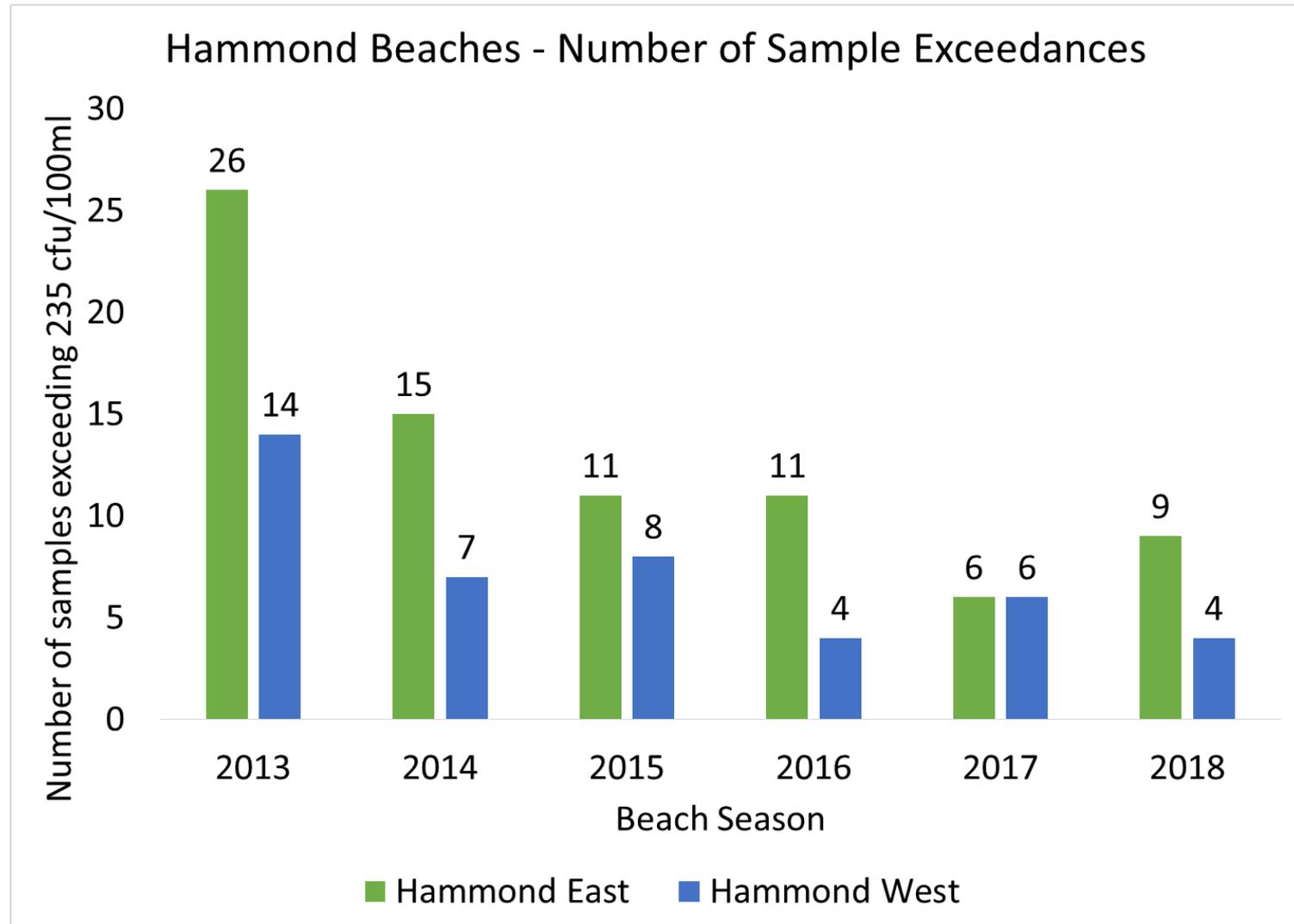
City of Hammond Beaches

- Hammond Marina East Beach and Hammond Marina West Beach
- Monitored 7 days per week
- One sampling location per beach
- Hammond East Beach had **9%** Exceedance rate (up from 6% in 2017)
- Hammond West Beach had **4%** Exceedance rate (down from 6% in 2017)
- Only day when BOTH East and West beaches had exceedances: July 6th

	# of Samples	# of Exceedances	# of Advisories	# of Closures	Total Beach Days	Days Under an Action
Hammond East	101	9	7	2	102	9
Hammond West	101	4	4	0	102	4

Data above from the 2018 designated beach season

City of Hammond Beaches





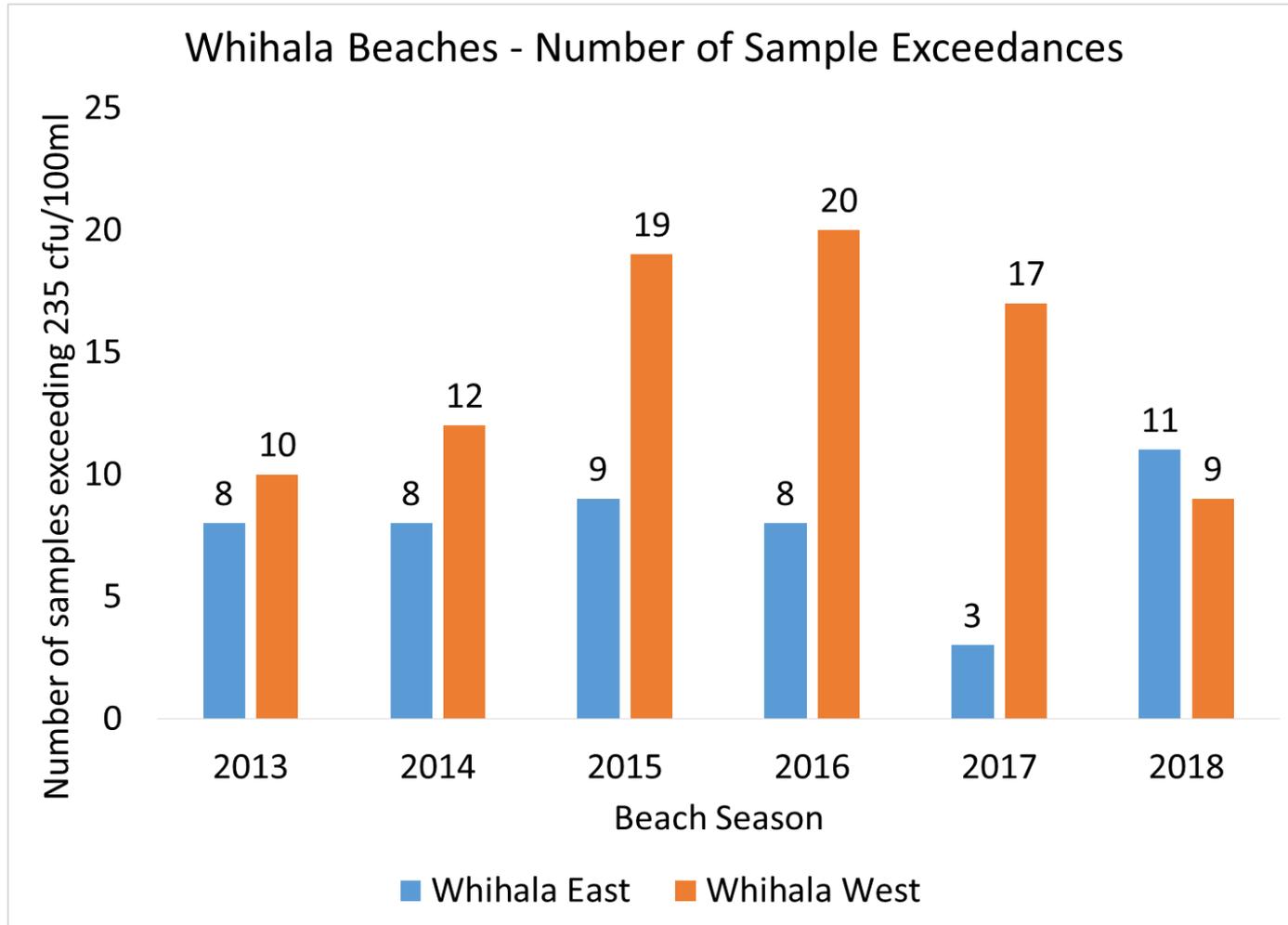
City of Whiting Beaches

- Whihala Beach East and Whihala Beach West
- Monitored 7 days per week
- One sampling location per beach
- Whihala East Beach had **11%** Exceedance rate (up from 3% in 2017)
- Whihala West Beach had **9%** Exceedance rate (down from 17% in 2017)
- Total of 4 days when BOTH East and West had exceedances:
May 30, June 1, July 17, and July 21
- Whihala West Beach had full dog program from May 29 – August 31
- Whihala East Beach had Eagle Eyes installed from July 26 – July 31

	# of Samples	# of Exceedances	# of Advisories	# of Closures	Total Beach Days	Days Under an Action
Whihala East	103	11	11	0	104	11
Whihala West	103	9	7	2	104	9

Data above from the 2018 designated beach season

City of Whiting Beaches





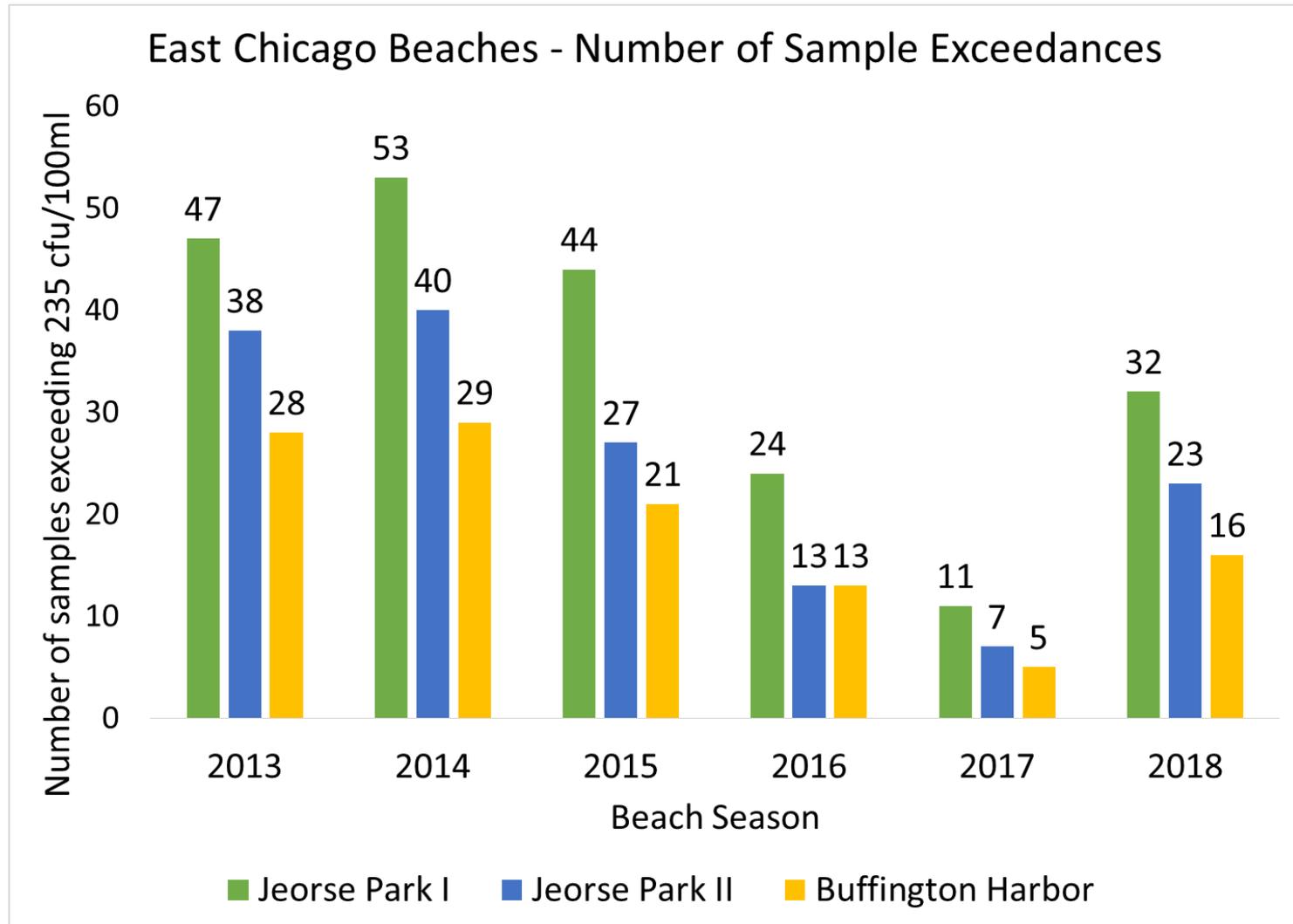
City of East Chicago Beaches

- Jeorse Park I, Jeorse Park II, and Buffington Harbor Beaches
- Monitored 7 days per week
- One sampling location per beach
- Jeorse Park I had **32%** Exceedance rate (up from 17% in 2017)
- Jeorse Park II had **23%** Exceedance rate (up from 11% in 2017)
- Buffington Harbor had **16%** Exceedance rate (up from 7% in 2017)
- Total of 5 days when ALL 3 beaches had exceedances:
May 29, May 30, June 7, July 31, and August 18

	# of Samples	# of Exceedances	# of Advisories	# of Closures	Total Beach Days	Days Under an Action
Jeorse Park I	99	32	32	0	100	32
Jeorse Park II	99	23	23	0	100	23
Buffington Harbor	99	16	16	0	100	16

Data above from the 2018 designated beach season

City of East Chicago Beaches





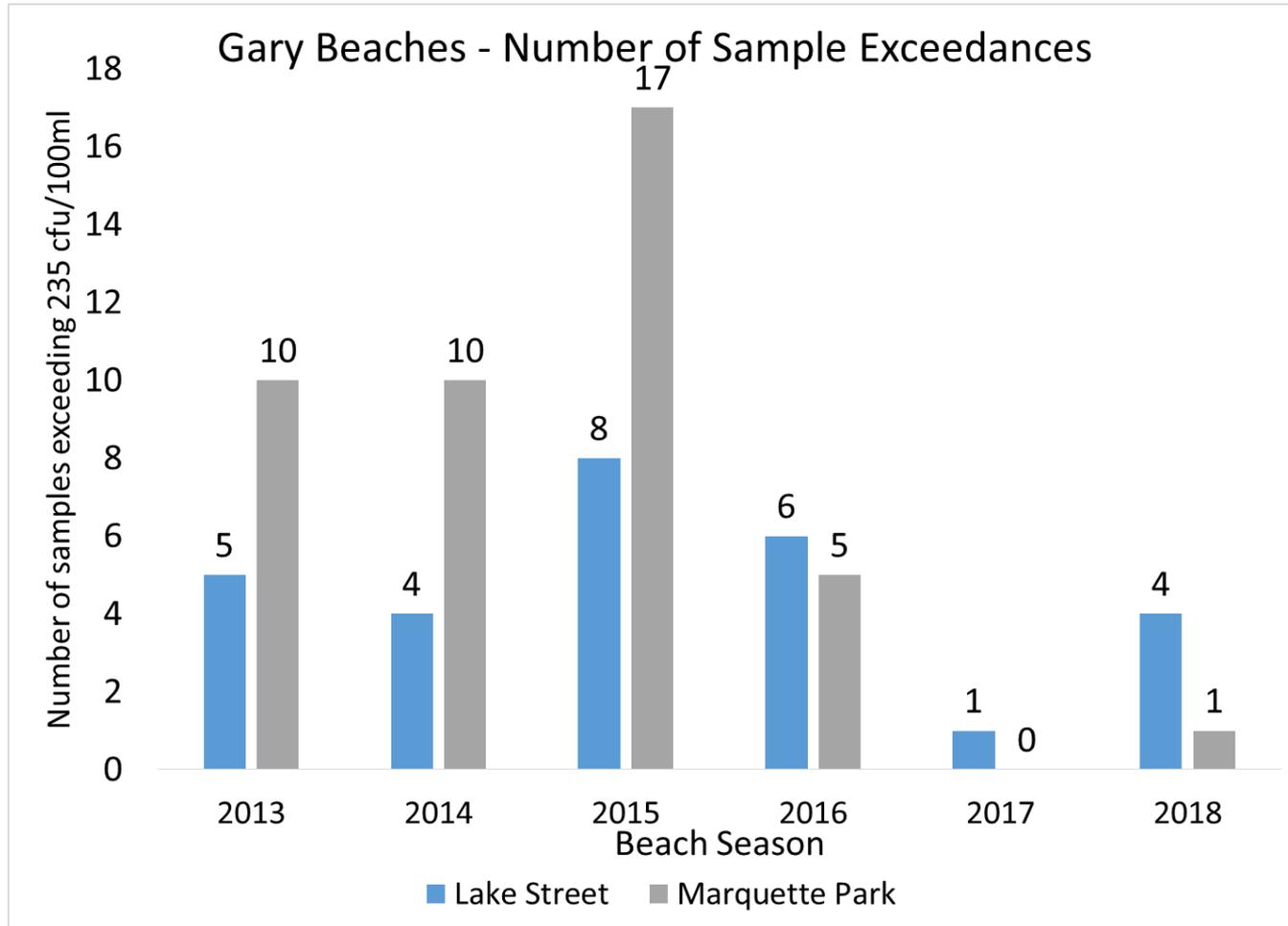
City of Gary Beaches

- Lake Street, Marquette Park, and Wells Street Beaches
- Monitored 5 days per week (Mon. - Friday)
- Lake Street Beach had **1%** Exceedance rate (same as 2017)
 - Lake Street has 2 sampling locations
- Marquette Park had **<1%** Exceedance rate (up from 0% in 2017)
 - Marquette Park has 4 sampling locations

	# of Samples	# of Exceedances	# of Advisories	# of Closures	Total Beach Days	Days Under an Action
Lake Street	142	4	3	0	107	7
Marquette Park	284	1	1	0	107	3
Wells Street	71	0	0	0	107	0

Data above from the 2018 designated beach season

City of Gary Beaches





BUI #10 – Current Status of Exceedance Rates

AOC Beach Exceedance Rates by Year*	2012	2013	2014	2015	2016	2017	2018
Hammond West	13	14	7	8	4	6	4
Hammond East	26	25	16	10	11	6	9
Whihala West	15	9	12	18	20	17	9
Whihala East	9	9	8	8	8	3	11
Jeorse Park I	70	47	54	42	24	11	32
Jeorse Park II	52	38	40	26	13	7	23
Buffington Harbor	33	28	29	20	13	5	16
Lake Street	5	4	3	5	4	1	3
Marquette Park	4	4	3	5	2	0	<1

* Exceedance rates based on number of samples collected Memorial Day weekend through Labor Day weekend



BUI #10 – Current Status of Exceedance Rates for Reference Site Beaches

Non-AOC Beach Exceedance Rates by Year*	2012	2013	2014	2015	2016	2017	2018
Indiana Dunes State Park West	15	7	14	12	13	8	12
Indiana Dunes State Park East	11	7	12	16	9	8	14
Ogden Dunes West	3	5	11	6	5	1	2
Ogden Dunes East	4	5	14	5	3	1	2
Washington Park	11	11	15	8	5	5	5

* Exceedance rates based on number of samples collected Memorial Day weekend through Labor Day weekend



2018 Program Breakdown

- Pre-season *E. coli* monitoring at East Chicago and Whihala beaches
 - East Chicago beaches started on May 15
 - Whihala beaches started on May 24
- Full dog programs and hourly bird counts at East Chicago beaches and Whihala West beach
 - Dog programs and gull counts started on May 29 (after Memorial Day)
- 3x/day gull counts at Whihala East beach (started on May 29)
- 3x/day gull counts at Hammond East and West beaches (started on May 29)
- Eagle Eye structural deterrents at Whihala East beach and West end pier
 - 13 Eagle Eyes were installed between July 26 – July 31



2018 Program Breakdown (cont.)

- New trash can lids and recycling receptacles at Hammond beaches
 - 20 recycling receptacles and 12 new trash can lids installed in June
- New trash cans at Whihala beaches
 - 15 wildlife proof trash cans with liners and lids installed in June
- Post-season *E. coli* monitoring at East Chicago, Hammond, and Whiting beaches
 - 30 samples each collected at Hammond East and Hammond West
 - 25 samples each collected Whihala East and Whihala West
 - 27 samples each collected at JP I, JP II, and Buffington Harbor
- Post-season Gull counts at East Chicago, Hammond, and Whiting beaches



Jeorse Park GLFER Ecosystem Restoration Project Update

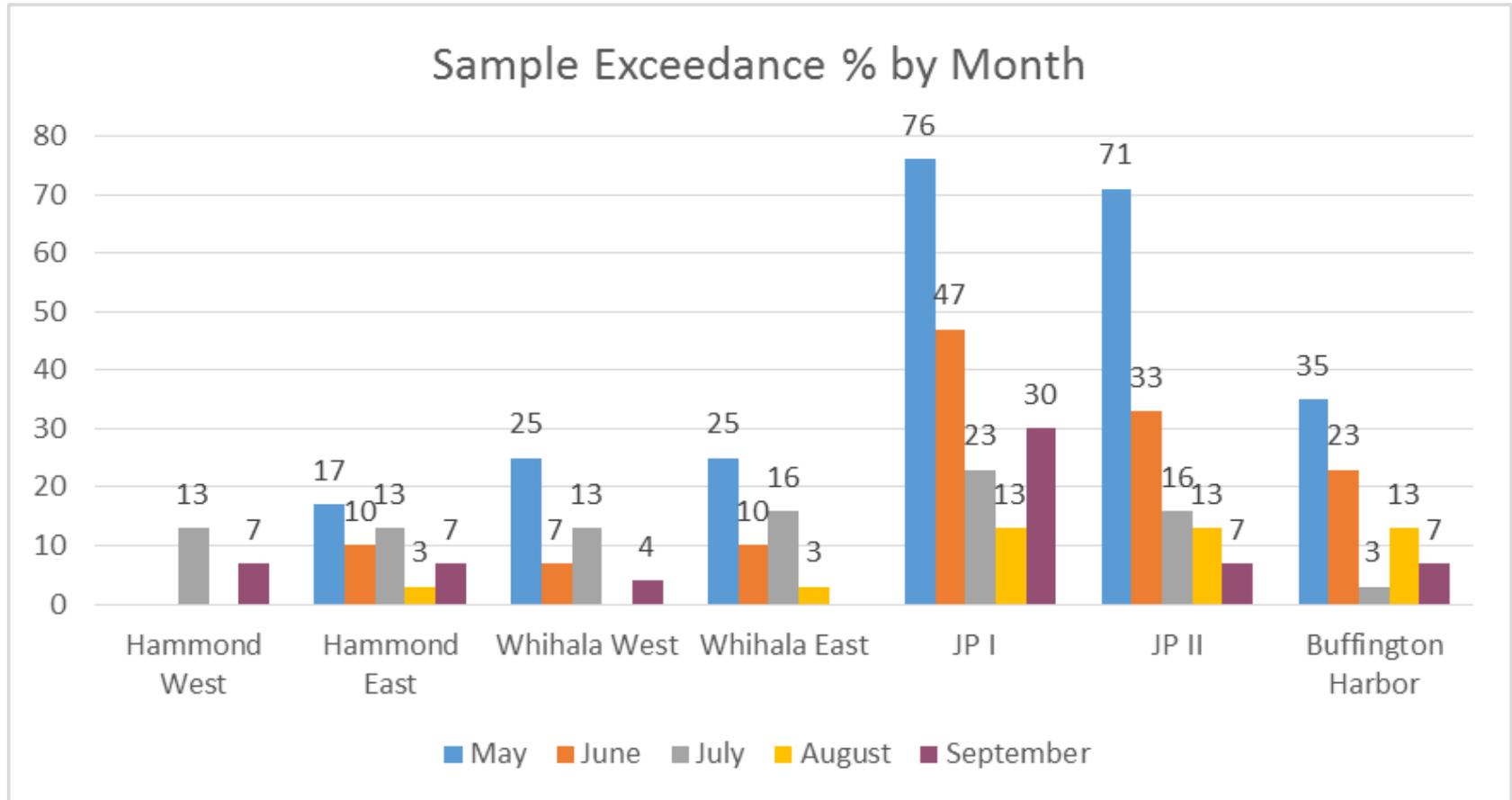
- Terrestrial invasive species removal has been completed
- All plantings have been installed and project is in establishment phase
- Monitoring of plantings and invasive species is ongoing
- Rock reefs were completed
- One post-reef construction fish survey completed
- Student conducting eDNA study near rock reefs
 - Results of fish species identified are forthcoming
- Potential Purdue University research on native fish reproduction and habitat at rock reefs

Jeorse Park GLFER Project Map



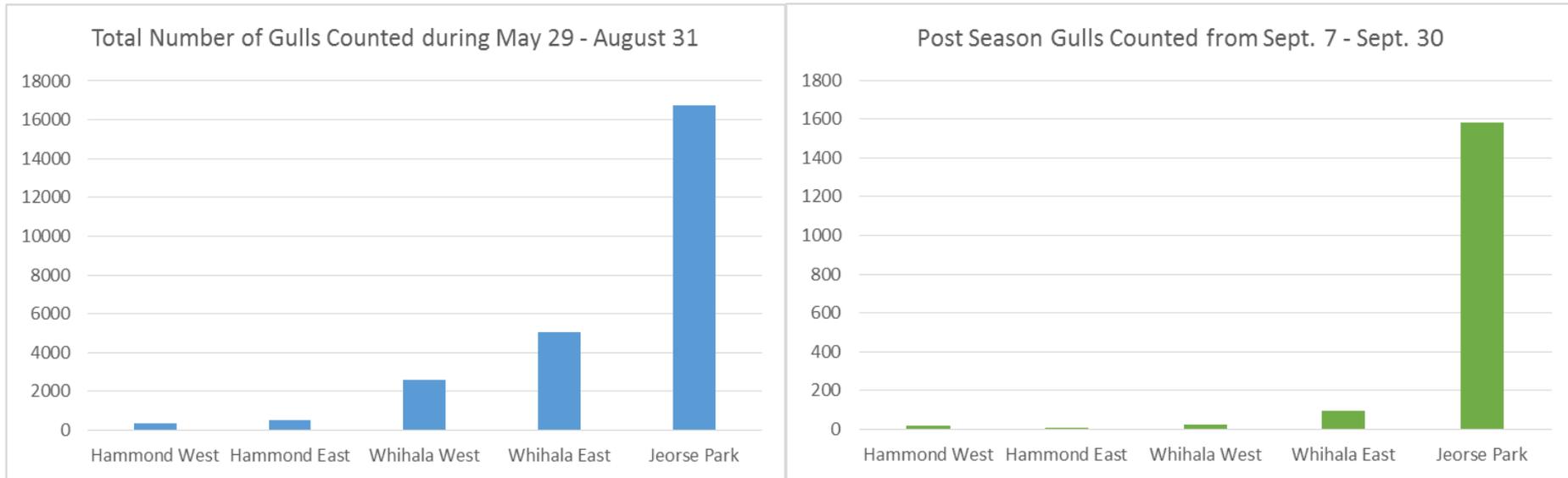
AOC Beaches

Monthly Exceedance Rates in 2018





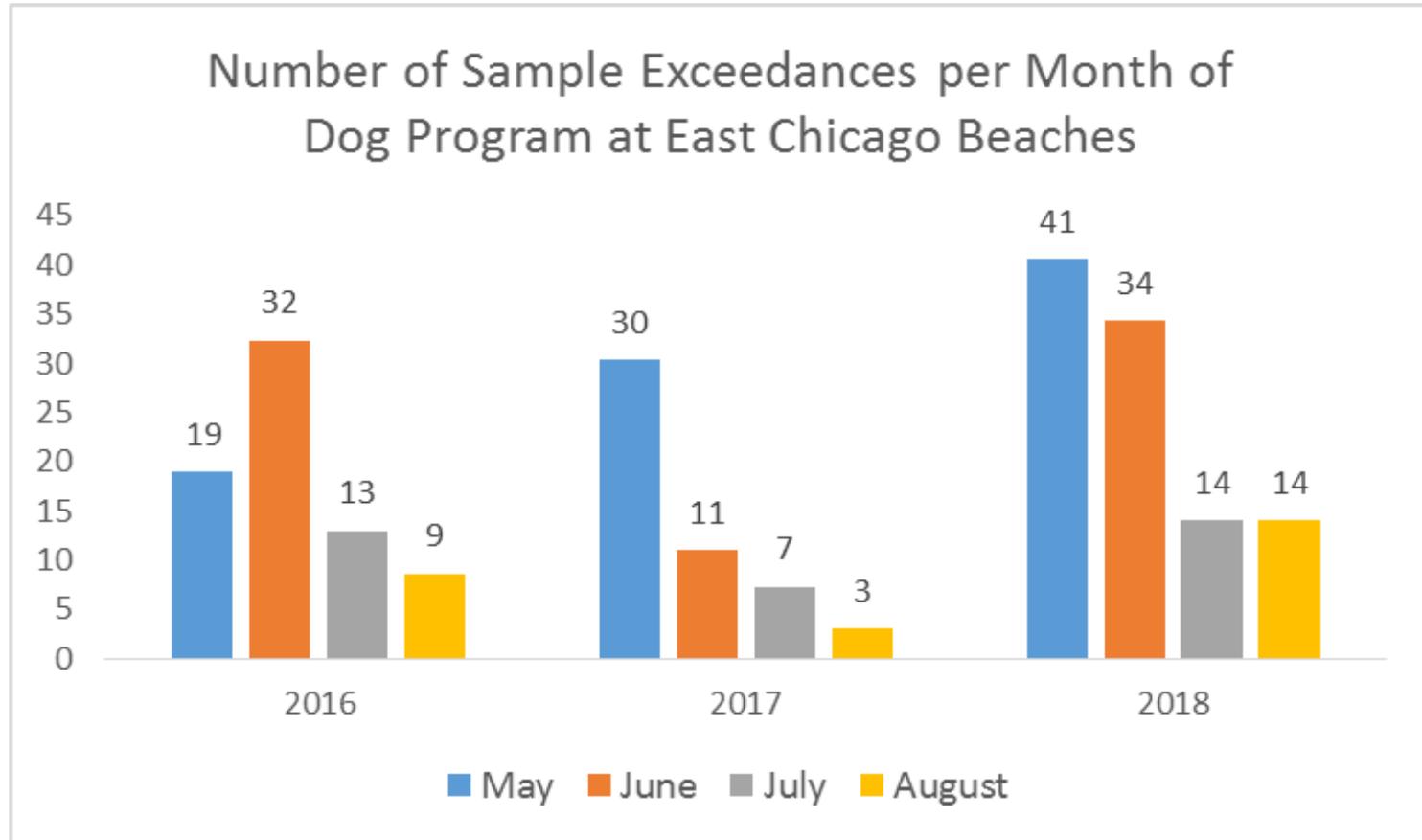
Comparison of Total Number of Gulls Counted in 2018



The delay in post-season counts due to contract amendment execution

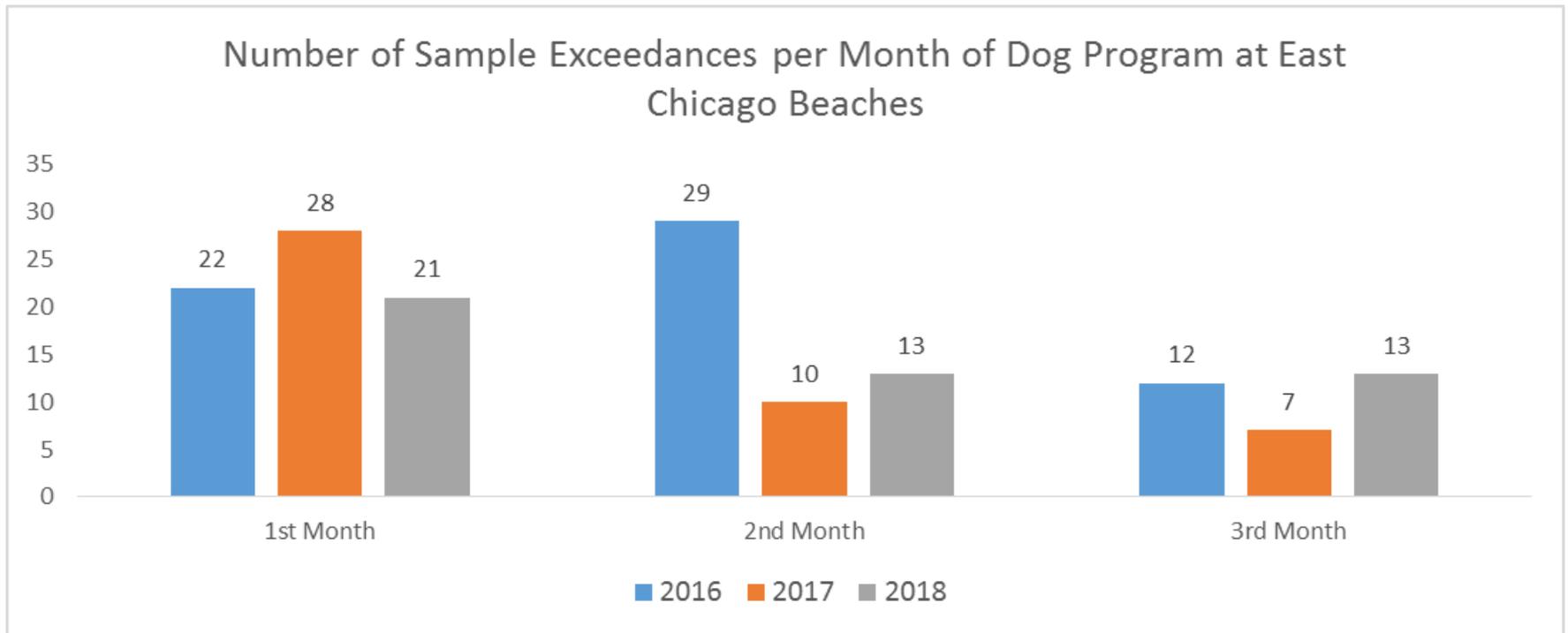
The regular season gull counts Y axis values are a factor of 10 HIGHER than the post-season counts

Exceedance Percentages by Month



May 2018 is the only month without the dog program implemented

Tracking Number of Exceedances by Month Using the Dog Program

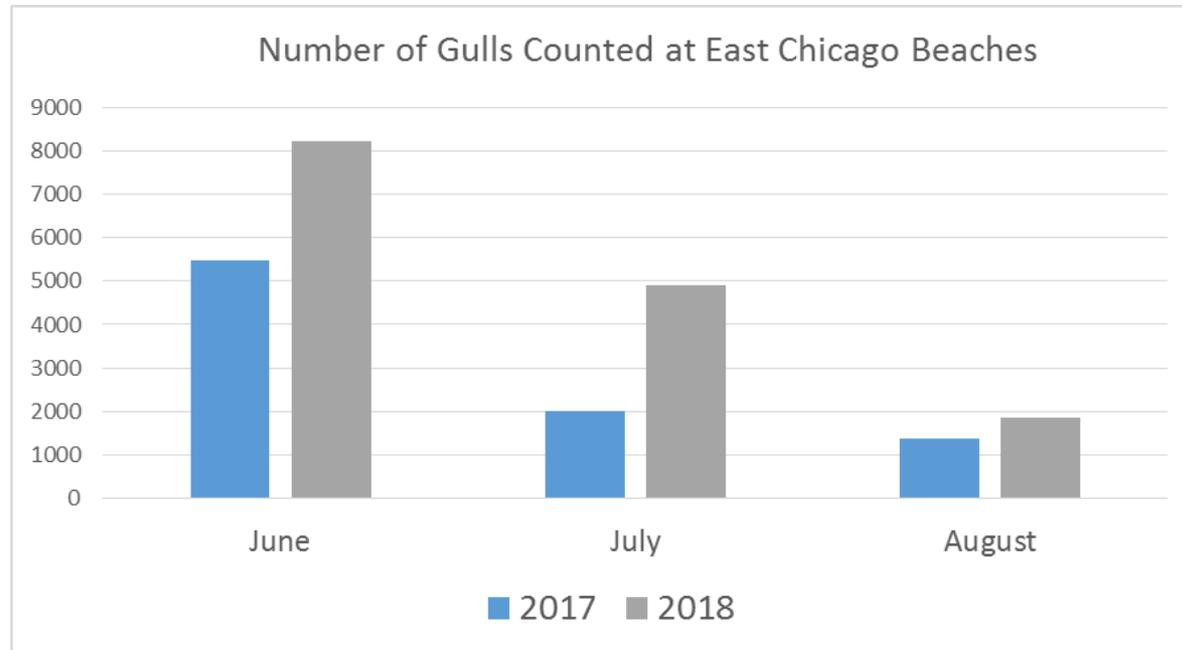


Consideration: The dog program started essentially 1 month later in 2018 than it had in the 2016 and 2017 seasons. This graph shows the similarity of sample exceedances for each month the dog program was in place regardless of start date.



Rainfall, Gulls, and Sample Exceedance Data at East Chicago Beaches

2018 East Chicago Beaches	June	July	August	2017 East Chicago Beaches	June	July	August
Rainfall in Inches	4.37	3.56	4.05	Rainfall in Inches	4.75	6.35	2.95
Gulls	8,204	4,890	1,859	Gulls	5,941	2,000	1,373
Number of Sample Exceedances	31	13	13	Number of Sample Exceedances	10	7	3





Projected Work For 2019

- Review USGS Beach Study findings
- Work with AOC communities to explore/implement new BMPs, including:
 - Use of handheld Agrilasers for nuisance shorebird management (Hammond, Whihala, and East Chicago)
 - Improved hand-feeding and pet waste ordinances
 - Improved beach grooming
 - A long-term, scaled-down bird deterrent program?
- Continue work with Indiana Lake Michigan Coastal Program on nonpoint pollution reduction, including through addressing failing septic systems



Projected Work For 2019 (cont.)

- Assist USDA with implementing a potential gull population control project
- Work to continue collection and analysis of gull count data at AOC beaches
- Continue education and outreach activities including:
 - Conducting handfeeding education and outreach to the beach-going public
 - Developing a video for beach managers and community leaders promoting effective beach BMPs
- Evaluate BMPs utilized during the 2016-2019 beach seasons
- Identify management actions needed to reduce the number of sample exceedances at AOC beaches

Thank you!



Marquette Park cracks down on littering with new policy

